

71-DF-1036

SAN DIEGO REGION

COORDINATED COMMUNICATIONS AND RECORDS SYSTEM

PROJECT D
AUTOMATED REGIONAL JUSTICE
INFORMATION SYSTEM (ARJIS)

Volume I
Management Overview
Policy Considerations
Implementation Plan

Prepared for:
Regional Steering Committee for
Records and Communications

APRIL 1974

ARTHUR YOUNG & COMPANY

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SAN DIEGO REGION

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ARTHUR YOUNG & COMPANY

515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

April 24, 1974

Regional Steering Committee for
Records and Communications
County of San Diego
5555 Overland Avenue
San Diego, California 92123

Attention: Mr. Robert Hively, Project Director

Gentlemen:

We are pleased to submit herewith the final report documents on our study of the Coordinated Records and Communications System for the San Diego Region.

The project consisted of three related but separate studies. Project A/B was an analysis and design of a regional coordinated communications system, including a plan for implementing a "911" emergency call handling center and related communications in support of police, fire and ambulance dispatching.

Project C was a study of regional response to unusual occurrences, such as an earthquake, major fire or civil disturbance. The study resulted in recommended improvements to response procedures, training and resource inventories.

Project D was a conceptual design of an Automated Regional Justice Information System (ARJIS) to support the various functional agencies involved in justice activities in the region.

The final report documents on these projects have been bound separately from one another. Project A/B and Project C are documented in two individual final reports. The Project D

final report is composed of two volumes. Volume I is a management overview and implementation plan. Volume II describes the conceptual system design, in terms of how it supports each functional justice area. In addition to these formal reports, a number of individual working documents and presentation materials were provided to the Steering Committee as the projects progressed. Included in those materials is a volume documenting the existing related systems in the San Diego area.

Within each major project report (A/B, C and D) there is a management summary highlighting the project results. A brief synopsis of the chief recommendations is given below.

Project A/B Regional Communications System

- The recommended system configuration includes one regional call receipt center to handle 911 emergency calls, with direct lines to local police or zonal fire dispatch centers for immediate monitoring of urgent calls, and information transfer on other calls. Dispatch facilities for San Diego Police Department and Fire Zone 3 would be co-located with the 911 center. San Diego Sheriff dispatch is also recommended for co-location with the 911 center.
- An intermediate pilot test of 911 operations in the City of San Diego would be conducted prior to finalization of the regional system design.
- The regional system development and operations should be under the direction of an executive board representing the concerned jurisdictions. An agreement among those jurisdictions would be required to establish policies and contract with either the City of San Diego or the County to operate the 911 center.
- There is a limited opportunity to share radio frequencies in the Region. This possibility should be pursued in a recommended series of steps described in the final report.

Project C Response to Unusual Occurrences

- The regional planning policies and procedures should be improved to develop more executive involvement in planning and to develop more comprehensive and detailed response plans.
- A series of task forces and liaison representatives is recommended in support of the increased planning emphasis.
- Simulated unusual occurrence response exercises should be conducted on a regular basis.
- Additional training is recommended for Emergency Services Office as well as city control center staff personnel.
- To maintain up-to-date resource information, an off-line, automated data processing approach is recommended.

Project D Automated Regional Justice Information System

- There is a need for an integrated system of justice information.
- The concerned jurisdictions should designate a management committee to coordinate the recommended implementation plan.
- The City of San Diego and the County should be focal points for development of the new capabilities. Funding for this development should be sought from the appropriate policy bodies, including grant support from the Regional Criminal Justice Planning Board.

Details of these and other related recommendations are provided in the appropriate project report.

A number of the recommendations are based on projections of potential costs of various local government operations and capital improvements. The cost factors employed were obtained from unaudited sources. They are also subject to future events

April 24, 1974

over which we, of course, can have no control. However, nothing has come to our attention in this study that indicates any major discrepancies in the assumptions or cost factors employed.

We wish to thank all the individuals on the Steering Committee and in the participating agencies for their total cooperation in the conduct of this project. We have appreciated the opportunity to be of service to the Region. If there are any questions concerning the material provided, we would be pleased to meet with you and discuss them.

Yours very truly,

Arthur Young & Company

TABLE OF CONTENTS

	<u>Section</u>	<u>Page</u>
I.	MANAGEMENT OVERVIEW	1
II.	SYSTEM OVERVIEW	10
III.	ORGANIZATIONAL CONSIDERATIONS	17
IV.	IMPLEMENTATION PLAN	24
V.	POLICY IMPLICATIONS	37
VI.	IMPLEMENTATION SUMMARY	42

LIST OF EXHIBITS

	<u>Title</u>	<u>Following Page</u>
I.	CRIMINAL JUSTICE INFORMATION SYSTEM COMPONENTS	10
II.	ARJIS SYSTEM OVERVIEW	12
III.	LAW ENFORCEMENT FILE CHECK PROCEDURE	13
IV.	POSSIBLE ORGANIZATION FOR JUSTICE INFORMATION SYSTEMS DEVELOPMENT	22
V.	REGIONAL JUSTICE APPLICATIONS RESPONSIBILITIES, COSTS, AND PRIORITIES	25

I. MANAGEMENT OVERVIEW

I. MANAGEMENT OVERVIEW

This report documents our findings regarding the requirements and best approach to develop an integrated and automated regional justice information system. The study was undertaken as one part of a three part study of communications, unusual occurrences, and information systems serving the law enforcement and related justice or public safety functions.

These studies were funded through an LEAA grant and coordinated by a steering committee selected to represent the various agencies involved in these areas. Funds were first requested in June 1971 and a modified application in September 1972. Arthur Young & Company was contracted with in September, 1972. The California Council on Criminal Justice (now the Office of Criminal Justice Planning or OCJP) approved the contract in April, 1973, allowing a project start in late May, 1973.

A. SCOPE OF THIS STUDY

This study was aimed at conceptualizing an integrated, computerized system which could service all the law and justice agencies in the San Diego Region. Additionally, the study had a secondary goal of identifying briefly other EDP applications of interest to individual agencies and integrating them into a phased implementation plan.

Conceptualizing a system of this magnitude involves three types of considerations. The first and perhaps most valuable is defining users' requirements and translating these into automated reports and/or terminal displays which satisfy those requirements. Perhaps less visible, but also important, is determining technically how to organize the data and hardware to provide those outputs. Finally, it is important to assess the impact on the users of the changes which will be required if the system is to work as conceptualized.

All of the local law and justice functions located within the Region were included in this study. The study included the Sheriff, District Attorney, Superior Court, Municipal Court, Marshal, Department of Probation, County Clerk, and the police departments of every city within the region.

B. STUDY METHODOLOGY & OBJECTIVES

The study had three primary objectives. These were:

- Determine a framework for development of the various application modules, within an overall integrated system.
- Allocate development responsibilities using logical criteria so that individual agencies will know what tasks they should be undertaking
- Review systems developed elsewhere and comment upon their potential for transferability to San Diego to minimize development costs

In performing this study, we visited each agency gathering data to determine existing systems and requirements. We then conceptualized in broad terms a new system and had the users review the proposed system, make necessary changes, and prioritize applications. We then estimated development costs, determined reasonable staffing levels for development efforts, and prepared an implementation plan based upon user priorities, technical constraints, and overall management considerations. Finally, we prepared a recommended organizational approach to achieve the plan through the proper application of the available resources.

C. CONCLUSIONS

We have developed two summary conclusions. These are discussed below.

1. The Need for an Integrated System

Almost every agency we spoke with indicated that their highest priority was a capability which could be produced

only through an integrated person/case tracking system or through integrated data bases on individuals and law enforcement events. Frequently the first four or five new EDP capabilities desired by a department fell into this category. We have termed such a capability an Automated Regional Justice Information System - "ARJIS" for brevity.

It was clear in the initial analysis of the Region's needs that the ability to track a person and/or case through the justice system (a) was something which only an ARJIS type comprehensive system could do; (b) was a prerequisite to any real evaluation of program effectiveness for most of the agencies involved in the justice effort, and (c) required full cooperation of all justice agencies. The tracking system offers additional capabilities in both operations and management activities. It can assist operations by providing better calendar and docket processes for the Courts; better access to criminal dispositions for prosecutor and law enforcement; and better subject tracking through the various parts of the jail and probations operations. From a management standpoint, it allows weighted, more comprehensive evaluations of conviction rates than is possible with manual statistics. It allows analysis of types and amount of penalties by crime category for Courts, Probation, and District Attorney; analysis of continuances by attorney and case; and recidivism by type of crime, type of penalty, and type of supervision.

A prerequisite to person tracking is an integrated file on individuals. Out of the over five million name entries found in major files in the justice agencies, only 2.1 million appear to be different individuals. In a centralized name file, there would be 2.1 million names and descriptions with five million entry dates and event types. This accomplishes the dual purpose of minimizing name entry time and also allows a quick overview of an individual's prior interactions with the justice system.

In the area of pre-arrest operations, it is mandatory that the information known to all local law enforcement agencies be available to any. It is trite but true that the criminal does not recognize city boundaries. In addition to person tracking, it is imperative that property and expert descriptions for all agencies be sortable and matchable on a regional basis with any property or events a given agency needs to resolve.

There are obvious security and confidentiality constraints on a system such as this and these are addressed herein. It is clear, however, that an integrated law and justice information system for the region would prove extremely valuable, both operationally and managerially.

2. Monetary Implications of an Automated Regional Justice Information System

We have concluded that there are serious requirements for computerized information support which are not being met. It appears that funds are being spent each year which might be avoided through the proper availability of information and the decision making this would allow. Additional research would have to be done on each application to verify this opinion, but results of projects undertaken in other jurisdictions have shown examples of such cost avoidance.

Perhaps the most significant effects of an ARJIS type system are that it could result in improved investigative techniques, prevention techniques, and rehabilitation techniques. A system such as ARJIS could ultimately provide substantial quantitative input to the sentencing and corrective program decisions. This should lead to reduced recidivism, which would have long range impact on the number of felonies occurring in the region. To a lesser extent, improved deployment of police units and enhanced investigative aids will lead to a higher percentage of apprehensions and convictions. This may, in turn, cause an initial

increase in criminals flowing through the system. The long range effect, however, should be a relative reduction in criminal events compared to continuing existing practices.

Other studies have indicated a cost in excess of \$100,000 per felon processed through the justice system. While figures such as this are hard to relate to reducible costs, it is clear that there are significant direct and reducible expenses associated with incarcerated felons and with all jury trials. It is probable that after ARJIS is "implemented" there would be an initial, perhaps one year, surge in felons arrested (and probably in jury trials as well). If the premises of responsive justice, deterrence and corrections effectiveness are valid, however, the on-going felony rate should then decrease.

In addition, other agencies have demonstrated specific savings and cost avoidance for many of the individual applications. Types of savings frequently realized include fewer record clerks (\$40,000 direct cost per year per 24 hour/7 day position) and increased "output" per detective, beat car, and judge. Each application should include a cost/benefit review in its early planning stages. These should not, however, lead management to ignore the overall values of the comprehensive system which most probably exceed the total benefits of each individual application.

D. RECOMMENDATIONS

The following summarizes our recommendations to the Committee and to the involved agencies which the Committee represents:

1. Adopt this Report and the Implementation Plan

Section VI of this report describes sixteen project areas, estimates costs for each application area, and assigns an

implementation sequence. The Committee should adopt the recommendations of this report including the implementation plan and should recommend to the County Administrator and Board of Supervisors, the City of San Diego Manager and Council the other City Managers, and the Regional OCJP Board that they adopt it also and appropriate the necessary funds to implement the first year's efforts in the 1974-1975 fiscal year.

2. The Board of Supervisors, and the Involved City Councils Should Adopt an Agreement Drafted by this Committee and Implement the Organizational Approach Recommended Herein

Section III of this report outlines an organizational approach assigning primary systems development responsibility to County EDP Services and San Diego City Department of Data Processing under the central leadership of an ARJIS Management Committee. The Committee should draft a joint powers agreement or similar document outlining the duties and responsibilities of each of the major agencies necessary to establish an initial organizational structure as outlined in this report. This approach should help to insure establishing proper security and privacy policies as discussed in Section V.

3. The County Administrator Should Recommend, and the Board of Supervisors Authorize, the Addition of Programmer Analysts to the Criminal Justice Group of the EDP Services Department

In order to accomplish this plan, we estimate that County EDP Services will require a total of five staff additions as follows:

January 1, 1975 - 2 programmer/analyst positions
July 1, 1975 - 1 programmer/analyst position
January 1, 1976 - 1 programmer/analyst position
July 1, 1978 - 1 programmer/analyst position

4. The City of San Diego Should Also Allocate Additional EDP Development Support to Implement this Project

The San Diego City Manager should recommend and the City Council authorize the addition of six new positions for law enforcement systems development, scheduled as follows:

- January 1, 1975 - 2 programmer/analyst positions
- July 1, 1975 - 2 programmer/analysts
- January 1, 1976 - 2 programmer/analysts

5. The Regional Criminal Justice Planning Board Should Allocate Sufficient Grant Funds to Cover Increased Development Costs

As noted above, there will be additional manpower requirements for systems development in the County EDP Services Department and in the City of San Diego Data Processing Department. Both of these agencies and most of the other cities will also have additional support requirements including contractual services. These funding requirements total as follows:

<u>Fiscal Year</u>	<u>City of San Diego</u>	<u>County</u>	<u>Other Agencies and Contract</u>	<u>Total</u>
1974/75	\$ 25,000	\$ 25,000	\$128,000	\$178,000
1975/76	125,000	87,500	144,000	356,500
1976/77	150,000	100,000	580,000	830,000
1977/78	150,000	100,000	240,000	490,000
1978/79	<u>150,000</u>	<u>125,000</u>	<u>336,000</u>	<u>611,000</u>
Total	<u>\$600,000</u>	<u>\$437,500</u>	<u>\$1,428,000</u>	<u>\$2,465,000</u>

These costs assume a burdened cost of \$25,000 per programmer/analyst per year. This may be somewhat high. It should be noted that the County and City of San Diego will be providing \$350,000 per year worth of programmer/analyst time already under this plan, plus a \$630,000 contract just let by the City to develop a computer assisted dispatch system. In summary, individual agencies will contribute about \$2,400,000 towards development of law and justice systems over the next five years and a similar amount should be allocated by OCJP.

6. Operational Costs Should be Borne by Users

Our opinion is that the applications must be worth their operational costs to the users or they should not be developed. Consequently, we do not recommend use of regional federal funds for operational equipment. One exception was made to this policy (acquisition of a mini-computer system for regional 911) because it requires a very large one time expenditure and yet truly benefits all agencies. Each operational agency (County EDP Services and City of San Diego Data Processing) should establish costing policies for distributing costs to participating agencies prior to establishing the system implementation plan. Almost all California Counties currently fund multi-agency applications out of general funds. Should the County decide to charge users, however, it should have an agreed upon costing formula for each application prior to development. Activity charges can be measured through the system and adjusted accordingly.

7. Overall Technical Constraints Should be Established by City and County EDP. If a Mutually Agreeable Solution Cannot be Achieved or if the Agreement Represents a Major Problem for Eventual Consolidation, the Task Force Should Review and Resolve the Issue

It is recommended that two agencies develop applications along the guidelines contained herein. It is recommended that the City and County EDP Departments establish interface and system standards for all multi-agency applications. Because these may impact eventual consolidation of operations and/or agreement may not be reached by the two agencies, the County Administrator and City Manager should review and resolve all significant issues. A technical compatibility document should be submitted for their review within one year of project initiation.

8. Law Enforcement Agencies Should Replace Current Fingerprinting Techniques with Computer Sortable Techniques

The current use of the Henry system of coding fingerprints utilized by the FBI is incompatible with computer identification. The NCIC coding or preferably the Numerically Coded Fingerprint (NCF) approach used in Los Angeles and elsewhere should be adopted. NCF allows searching of partial prints as well as positive ID matching.

E. ORGANIZATION OF THIS REPORT

The results of this study have been organized into two volumes. This volume contains this management overview, a detailed implementation plan, a proposed organizational approach to implementation and operation of the proposed system, and a statement of policy implications.

Volume II contains a description of major EDP applications for all the agencies with proposed output reports and file designs for the multi-agency applications. In addition to these published reports, existing systems and user agency needs have been described in working materials transmitted separately.

II. SYSTEM OVERVIEW

II. SYSTEM OVERVIEW

This section provides a summary outline of the proposed system. It describes only the multi-agency applications which are truly regional in nature. In addition, each agency has system requirements which are unique to that agency.

A. COMPONENTS OF THE AUTOMATED REGIONAL JUSTICE INFORMATION SYSTEM

Exhibit I on the following page depicts the six major components of a regional justice information system. These are as follows:

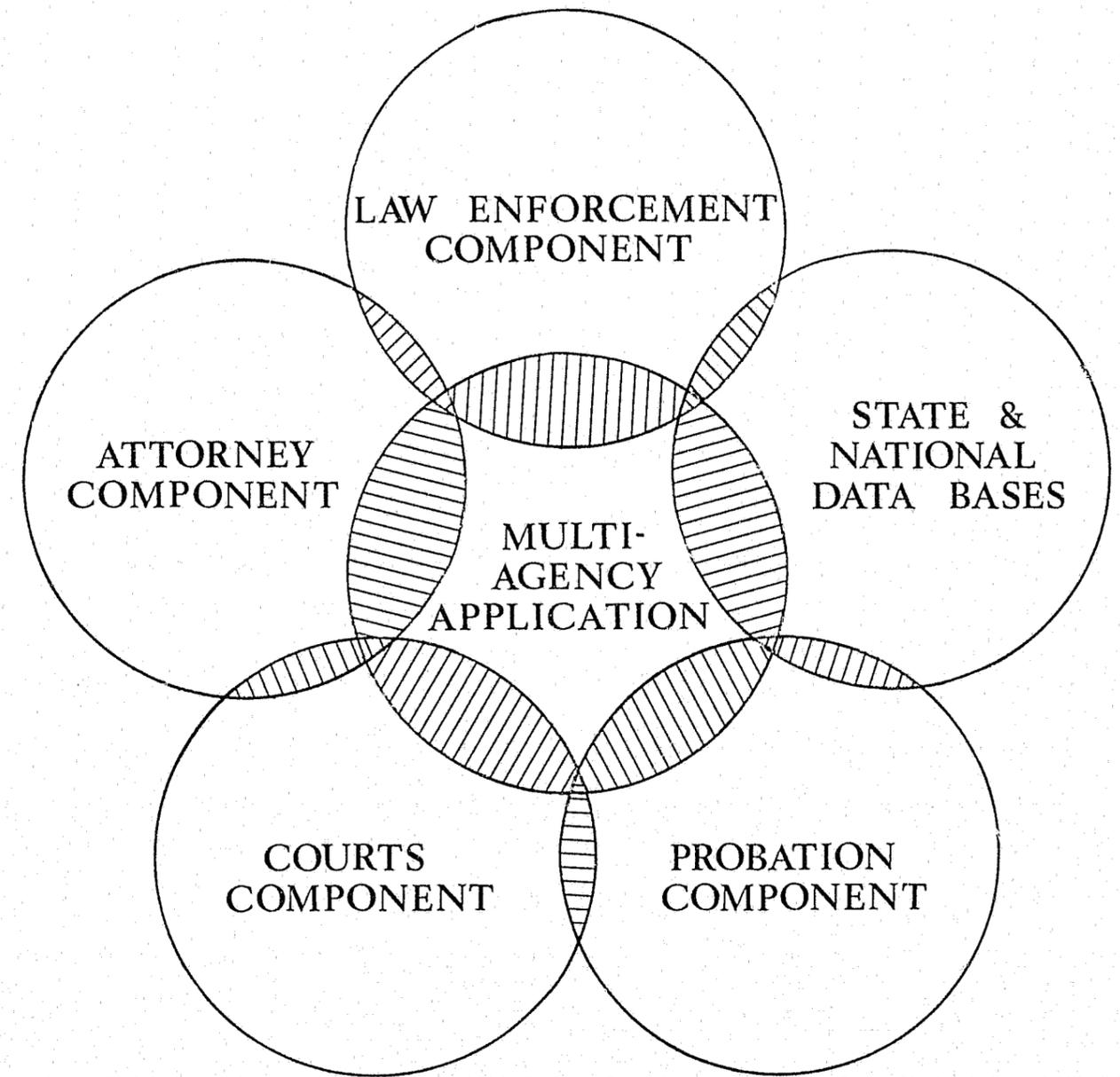
1. Law Enforcement Component

This component includes automated support to the Sheriff, the Marshal, and to each of the police departments in the Region. Applications within this component generally fall into one of the following areas:

- Apprehension and Identification
- Crime Solution
- Crime Prevention and Safety
- Communications and Dispatch
- Management Information
- Research and Planning
- Intelligence Operations
- Detention

Several existing EDP applications service this component including Want/Warrant, Jail Information, Stolen/Pawned Property (SDPD only), Field Interview (SDPD only), and Computer Assisted Dispatch (SDPD, under development).

CRIMINAL JUSTICE INFORMATION SYSTEM COMPONENTS



2. Attorney Component

This component services the District Attorney and, to a lesser extent, could service individual city attorney functions and/or a public defender function, should the County establish one. As currently envisioned, this component would service the following application areas:

- Family Support
- Criminal Operations
- Organized Crime

The component, as currently conceptualized, does not include capabilities similar to the Washington, D.C. PROSIS system since no department within the County feels it is large enough to require such extensive support.

3. Courts Component

This component services San Diego Municipal Court, North County Municipal Court, El Cajon Municipal Court, Superior Court, and the County Clerk justice functions. The Court Component of the regional system provides service primarily to four areas -- calendaring, records, evidence control, and management statistics. Additionally each agency may utilize automated support in the fiscal systems area. The automated regional systems are designed to be flexible enough to support civil, criminal (adult), juvenile, and small claims matters. In addition to the conceptualized new systems, there is an existing traffic prior violations system.

4. Probation Component

This component services only the probation function. Camps are serviced through the law enforcement component because of the existing automated jail system. There are three primary aspects of automated support to Probation. The first is on-line case control. The second is research into program effectiveness and assistance in making sentencing recommendations. The third is data base access and index automation.

5. State/National/and Other County Data Bases

This component provides the ability to access justice data bases at the State and Federal level and in neighboring counties. Since many data bases already reside outside the region on accessible computers, it is important that easy access to these systems be provided. This is possible for law enforcement agencies now over a teletype system. Other justice agencies currently lack this ability.

6. Name Data and Personal History Component

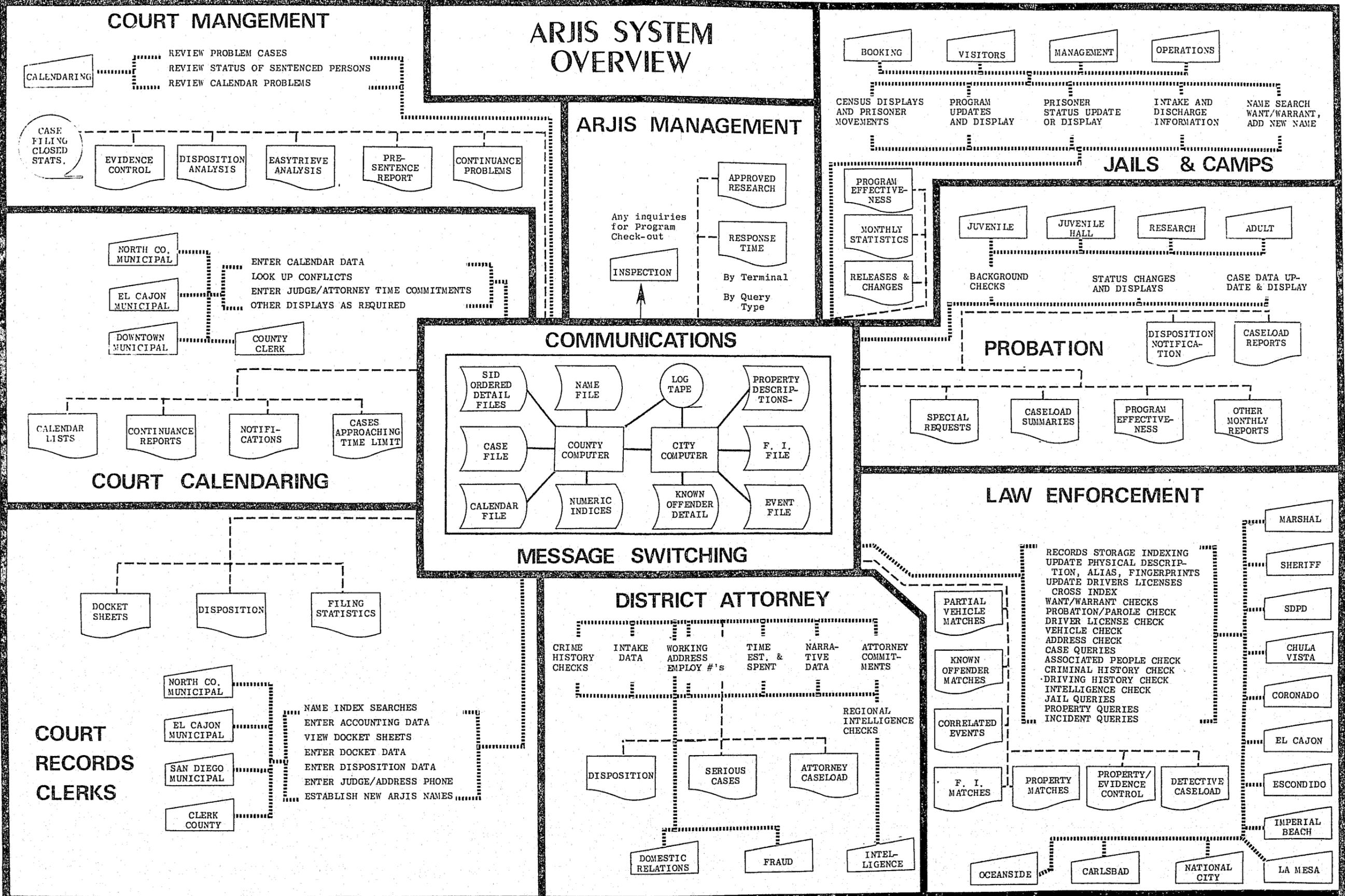
This component is the initial component of an integrated regional system. It contains a combined list of all the individuals with whom the justice agencies in the Region do business and indicates which types of records are contained in the other components about the individual. It also contains numeric identifiers (license plates, driver's license, FBI numbers, etc.) associated with an individual and a physical description.

B. A SUMMARY OVERVIEW OF THE ARJIS SYSTEM

Exhibit II on the following page lists typical reporting and inquiry/display capabilities of a comprehensive automated regional justice information system. As can be seen from this exhibit, the system would provide varying types of support to each portion of the law and justice community.

In reviewing this exhibit, it should be explained that the outputs are identified by the dashed lines (- - - -) and a report title . Terminal transactions are identified by a broken line (|||||) and a terminal symbol .

As can be seen from the overview exhibit, the system would provide substantial support to the courts and law enforcement with somewhat less to Probation and the District Attorney. This is similar to



what has been developed in other communities and is consistent with the level of interest and requirements demonstrated by the individual agencies.

C. AN EXAMPLE OF THE ADVANTAGES OF INTEGRATION

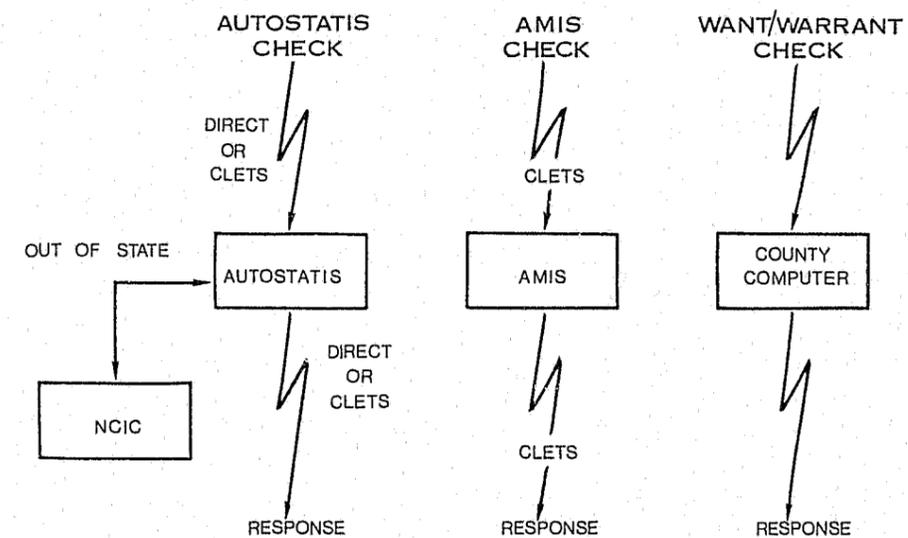
In reviewing the proposed system, it is clear that we have strongly recommended an integrated approach. The reason for this is that aside from the long-range research and planning advantages, there are strong short-term economic advantages. Exhibit III depicts the current method of making a data base query and the proposed integrated approach. By comparing the two from a user standpoint we see the types of efficiencies an integrated system provides in comparison to several competent, but independent applications.

<u>Query Factor</u>	<u>Current Method</u>	<u>Proposed Method</u>
	<u>CLETS Operator</u>	
1. Check out this vehicle license plate	<ul style="list-style-type: none"> . Key in plate number send to CJIS . Receive response . Notify officer . Key in plate number send to AMIS . Receive response . Notify officer 	<ul style="list-style-type: none"> . Key in plate number . Enter code for check all files . Receive response . Notify officer
	<u>County Terminal Operator</u>	
	<ul style="list-style-type: none"> . Key in plate number send to want/warrant . Receive response . Notify operator <p style="text-align: center;">- - - - -</p> <ul style="list-style-type: none"> . Receive NCIC response (if out-of-state) . Notify officer 	

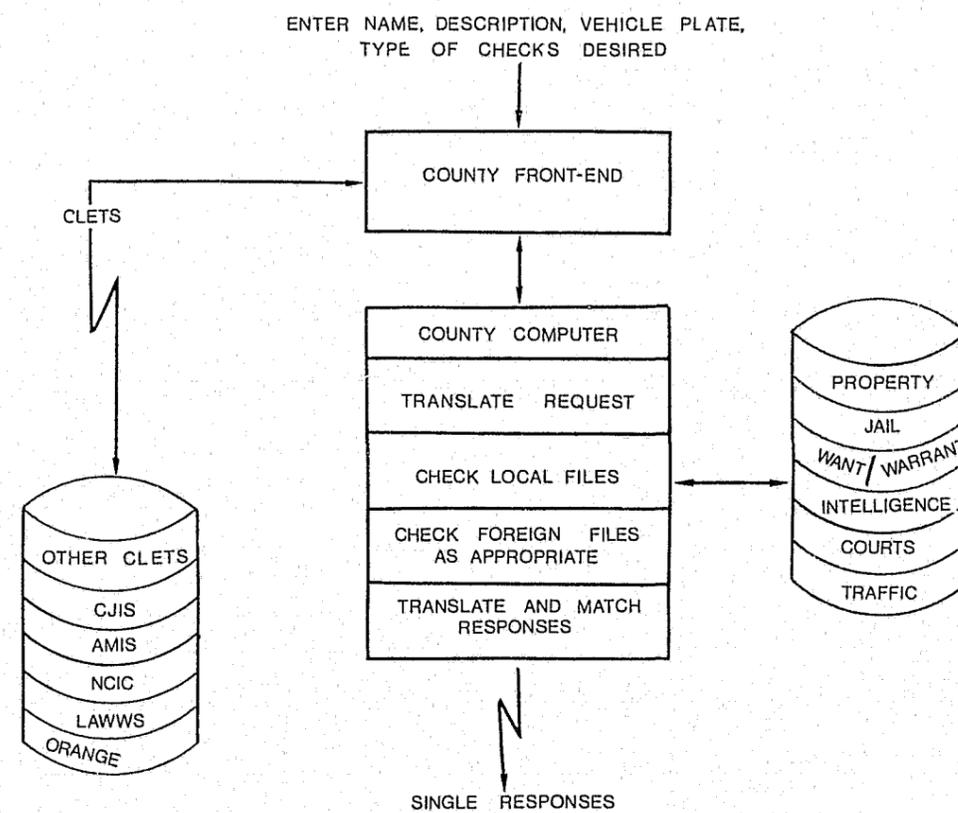
Note: also would check field interrogations recent citations for individuals associated with this vehicle

LAW ENFORCEMENT FILE CHECK PROCEDURE

CURRENT PROCEDURES



PROPOSED



Query Factor

Current Method

Proposed Method

2. Tell me about this person

Manual

- . Call own agency records division
- . Receive response
- . Notify officer county terminal
- . Enter name and description
- . Receive want/warrant response
- . Notify officer

- . Enter name, description and files desired to have checked
- . Receive response
- . Notify officer

CLETS Terminal

- . Enter name and description
- . Receive CJIS response
- . Notify officer

Manual

- . If suspicious, call sheriff records
- . Receive response
- . Notify officer

Note: will have checked other police files in region automatically

- Will know if person is on probation
- Can check LA and Orange County files also
- Can check field interviews and associated individuals
- Jail records also checked

As can be seen from the above two examples, substantial savings are achieved in user time as well as field officer wait time. This is an example of the type of immediate advantage offered by an integrated approach.

D. COMMENTS ON SCOPE

In devising this master plan, we had to draw boundaries around what constituted a criminal justice information system. We excluded several areas which might be considered applicable by a broader definition. Excluded were:

• Equipping Police Vehicles with Terminals or Status Buttons

The placing of an electronic terminal in law enforcement vehicles is essentially a communications system problem. We have therefore not included it in this study. However, the computer information systems which would provide the data to these terminals and/or receive input from them have been included.

• Electronic Court Reporting and Translation

We have excluded electronic court reporting from our study as well. This is an area which is just coming of age and the feasibility vis a vis manual recording, magnetic tape recording, and/or videotape recording varies from court to court. It would require an exhaustive study of technical and economic feasibility as well as delicate labor negotiations to resolve this area.

• Electronic Vehicle Location

Electronic vehicle location (the ability to know where a specific police vehicle is at any point in time) is currently a technically feasible and economically questionable field. There are several alternative approaches which require substantially different amounts of software. Since it is unclear which of these (or which combination) would prove most favorable in San Diego, we have excluded this area.

• Mechanized Records Storage Systems

The County has tentatively decided to proceed with acquisition of a modern records storage capability. We have recommended further study of precisely how to proceed in this complex area, but have not addressed the physical storage system costs since they are dependent upon the hardware approach rather than the systems approach. We have included the index to a records storage system in the ARJIS Phase V package.

• Fiscal and Other Citywide or Countywide Type Applications

We excluded from this study those applications which are needed equally by agencies in other governmental areas and are not peculiar to justice functions. Examples include:

- Payroll
- Accounts Receivable
- Purchasing and Accounts Payable
- Inventory Control of Supplies
- Budget Support

Each of the above applications is primarily tied to something other than a regional justice information system. For this reason, we have not addressed them in this report.

III. ORGANIZATIONAL CONSIDERATIONS

III. ORGANIZATIONAL CONSIDERATIONS

This section describes a recommended approach to implementing the system with a central leadership managing the various operational and developmental resources available throughout the Region.

A. ORGANIZATIONAL ALTERNATIVES

There are several methods various regions have used in organizing the resources necessary to develop and operate a system such as ARJIS and the related criminal justice applications. Some of the alternatives include:

1. County Would Have Total Responsibility

Under this approach, the County as the only jurisdiction having a region-wide responsibility and authority would develop all applications and operate the system as an integral part of its data center. This approach has several benefits including clear responsibility, one large staff for development, one large machine center for processing, and a single computer software approach. It also has several disadvantages including limited user control for non-County agencies and relatively more emphasis on court-related functions than enforcement. Also, the County would have to finance development and utilize its usually scarce EDP management talent to develop applications for other agencies. Some form of user committee always accompanies this approach and it is best suited to the large county/multiple-small-cities environment.

2. Joint Powers Justice Systems Entity

Some jurisdictions have taken the approach of setting up a joint powers entity which develops its own staff and operations

center. In this approach, the data center essentially reports to a users policy committee. Advantages of this approach include: excellent user responsiveness, an excellent security and privacy environment, and single purpose and direction. Disadvantages include: delay in organizing developmental efforts, impact on other EDP agencies in reducing economies of scale, back-up difficulties, staff job security problems as development peak passes and a tendency toward self-perpetuation of development staffing costs. This approach is most effective where (a) no existing EDP agency has a good "track record," (b) there are no large EDP agencies, or (c) there are several similar-sized user agencies who lack mutual trust and respect. This approach may be used for either development or operational resources and may be multi-county in scope.

3. Joint Powers Law Enforcement Systems - County Justice Agency Systems

A third alternative is to split responsibilities for law enforcement applications from those for other justice agency applications. This approach typically has the cities establishing a joint powers agency similar to alternative 2 above to develop and/or operate law enforcement applications. The County would then develop and operate the other justice applications. The advantages are (a) better user responsiveness than any of the others since each organization services a more cohesive user group; (b) it provides perhaps the best security and privacy situation, and (3) every agency has a direct influence in development of applications affecting it. This approach has several problems including the fact that the role of the County law enforcement agency is somewhat ambiguous and a complex computer interconnection is required. There are also the disadvantages of approach number 2 above. This approach is most suited to a county which has little unincorporated area and several medium-sized cities. It is most effective where

an existing joint powers agreement for multi-city EDP development already exists.

4. Large City/County Data Center

In counties with a single large city, there are often joint development and operations efforts between the two large agencies in several areas. This provides a background and structure for a similar approach in law and justice systems. Advantages of a general purpose joint city/county data center include: the most efficient use of equipment of any alternative, a large cadre of trained programmer/analysts upon which to base systems development staffing, and a well-developed approach to user coordination. Disadvantages include: limited responsiveness to users in other agencies and a relatively poor security and privacy environment. This approach is most likely in areas where a city and county have very similar boundaries.

These are the four main approaches used elsewhere. We have considered each of these and recommended an approach which takes something from each of the above, but is not identical to any of them.

B. FACTORS AFFECTING HOW TO ORGANIZE IN THIS REGION

In addressing organizational alternatives, the following factors should be considered:

- Of the agencies involved, the County has the most mature organization, both for operations and system development. It also has several existing applications (Jail, Want/Warrant, Traffic Priors, and BCS) which will have an interface with the integrated system.

- The County is able to provide up to 12 programmer/analysts to justice systems development within current budget constraints. The City of San Diego can provide up to three within current budget constraints.
- Decisions made on security and privacy affect all justice agencies. An on-going body is required to rule on security and privacy questions as they arise. This body should be an executive level group.
- If LEAA funding is to be provided to assist in developing this system, it should be requested, administered, and controlled as one or two large multi-year, multi-application grants.
- The City of San Diego has two existing applications which are multi-city in nature and should be part of a mature regional justice information system.

In reviewing the above factors, we have come up with a proposed organization for accomplishing the development and operation of these regional law and justice systems.

C. ORGANIZING TO SUPPORT SYSTEM DEVELOPMENT

Development and support of the applications outlined in this plan is a major undertaking for the involved agencies. With developmental costs alone in the neighborhood of \$700,000/year, it is clear that the magnitude of the effort requires a recognized authority to coordinate it.

The approach which will best fit the region's development needs is a joint City of San Diego/County development effort. Specific responsibilities are listed in the implementation plan section (Section IV). This effort should be coordinated by an on-going ARJIS Management Committee appointed by the respective City Managers and the County Administrator. In this way, all potential users can be represented in policy decisions, but the major sophisticated EDP agencies can manage the day-to-day problems. Advantages of this organizational approach for the San Diego Region are as follows:

• Maximizes Use of Existing Resources and Minimizes Staff Development Delays

This approach optimizes the speed with which applications can be developed with responsibility directed to two agencies who are ready to contribute existing staff and who have the existing managerial ability to manage near term staff increases.

• Assigns the Developmental Responsibility to the Largest User

The City of San Diego data processing center should concentrate on functions related to criminal offense and police service. The County of San Diego data processing system should support processing of the criminal offender from arrest on through the justice system. By taking this approach, the largest using agency (which typically has the most difficult processing demands) has the lead user coordination role.

• An On-Going Policy Board Exists for Adjudicating Policy Differences Including Security and Privacy Matters

As mentioned in the section on security and privacy, there are continual requests for modifications to initially established policies and appeals for exceptions for specific research studies, etc. Also, this master plan for development schedule is merely the best schedule that can be made today. As actual development proceeds, alternative priorities and new potential applications need to be considered and the plan modified as appropriate. This approach allows representatives of the entire justice community to participate in these continuous policy decisions.

• Provides Optimum Opportunity to Build Upon Existing Applications

The County has four major on-line justice applications and the City of San Diego has three. This approach allows modification of all seven of those by the agencies familiar with their operation.

• Organization Integrated with OCJP Planning Process

By having the Regional OCJP Board represented on the ARJIS Board, the project becomes an integral part of the regional justice planning process. This is important for two reasons. First, ARJIS will provide the main input to the planning process once it is fully operational. Secondly, but also important, any LEAA funding which is utilized will be controlled directly through the regional OCJP function.

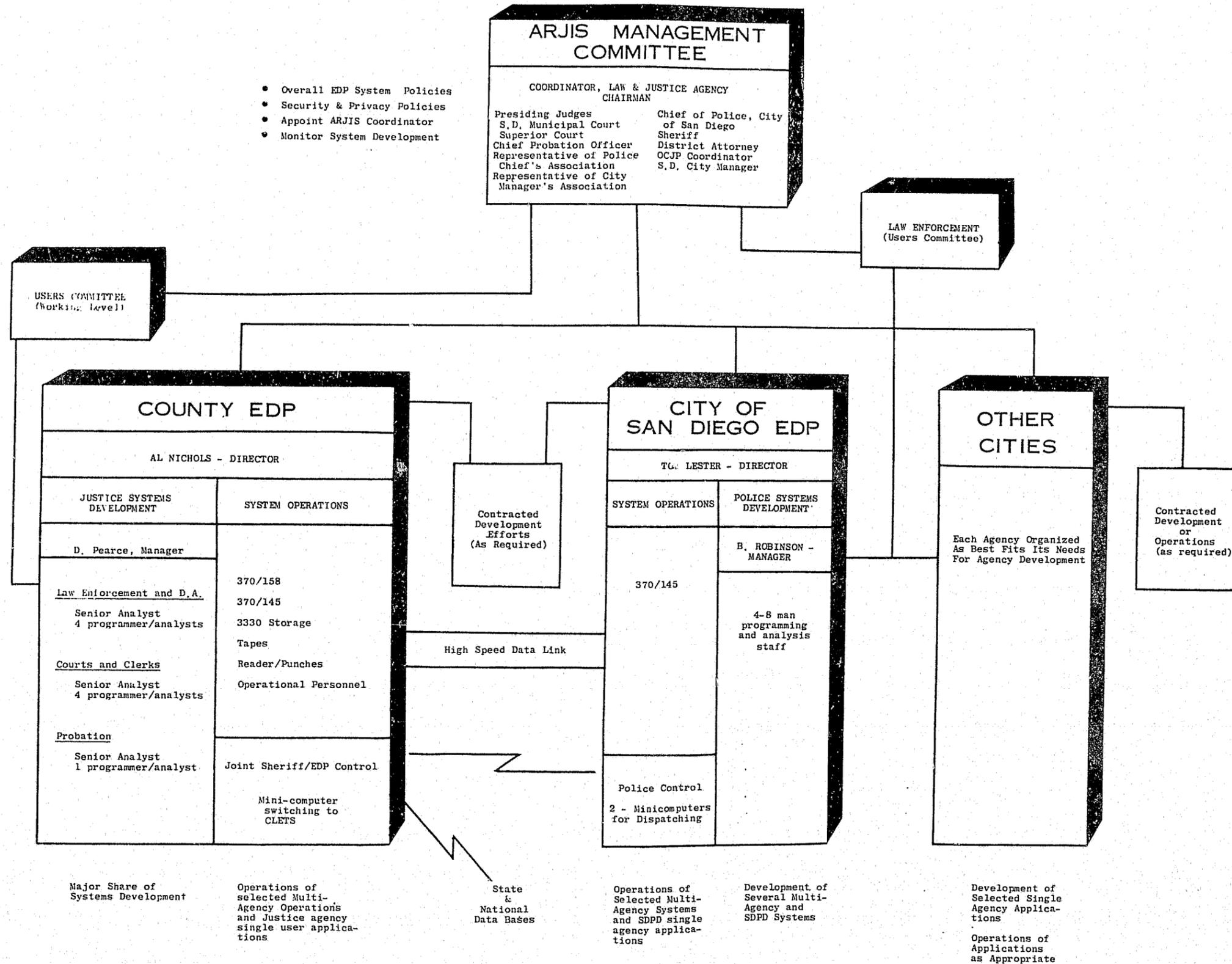
The chairmanship of this Management Committee should probably rotate among members of the OCJP Region II Executive Board and the Coordinator of the Law and Justice agency based upon interest and availability. We have recommended the Law and Justice Coordinator have the responsibility for initially organizing the Board. The chairman should act as the spokesman for the Committee with the EDP support organizations. We would anticipate that the Court Clerks would represent the presiding judge at technical sessions.

This approach requires the City and County data processing managements to undertake difficult technical coordination between City and County data centers and planning groups. Because operations may ultimately be on one computer, (see below), the two data centers will have some operational and development problems. However, all things considered, we believe that this approach will lead to the optimal developmental results for the region as a whole.

Exhibit IV on the following page depicts that organization. In effect, we envision very limited activity on the part of the ARJIS Committee considering the personnel currently involved on the part of the City of San Diego and the County. Strong coordination will not be necessary because there exists a high degree of cooperation and mutual respect. However, since during a five-year span we would expect considerable turnover (especially in the data processing field) and since there are a few policy issues which must be resolved at an interagency level, we believe a formal structure such as the ARJIS Committee is needed to resolve issues between the various participating agencies.

Developing a workable multi-agency organization with formalized agreements is a time-consuming process. Fortunately, the first year of the plan is a period during which the City of San Diego and the County bear the only responsibilities and the tasks involved require primarily technical rather than policy cooperation. By the second year, however, actual joint operations would be beginning and the ARJIS Board would be required.

POSSIBLE ORGANIZATION FOR JUSTICE INFORMATION SYSTEMS DEVELOPMENT



D. ORGANIZING SYSTEM OPERATIONS

In a mature ARJIS system, a single data center should process all multi-agency applications. This would undoubtedly be the County EDP Services Department as functions are currently assigned. In this state, the only requirement outside of the existing organization structure is the continuation of the Regional ARJIS Board for security and privacy issues and related broad policy questions.

In the interim period, during which there is joint City/County development, there should be operations in both data centers. While a high-speed data link will be necessary between these two centers, it is likely that both will continue to operate under differing policies and system software since each will have different demands to fulfill from non-justice users. The Regional ARJIS Board should utilize its financial influence to arbitrate on problems which cannot be mutually resolved by the two agencies. It should be borne in mind, however, that the ultimate goal is to operate all systems in a single center.

IV. IMPLEMENTATION PLAN



IV. IMPLEMENTATION PLAN

This section describes how the proposed system should be developed. It contains estimates of costs for various modules, the philosophy behind how priorities were determined, a brief description of each module, and a schedule showing when each module is to be developed. We have also suggested assignments of multi-agency applications to either the County EDP Services Department or the City of San Diego Data Processing Department. We have also totaled the manpower requirements for each of these agencies (assuming the responsibilities are distributed as recommended).

A. ASSIGNING DEVELOPMENT RESPONSIBILITY FOR APPLICATIONS TO SPECIFIC AGENCIES

One of the goals of this study was a plan specific enough to enable individual agencies to take development actions immediately. In order to accomplish this, it is highly desirable that responsibility for particular applications be assigned to specific agencies. Once this is done, each agency can proceed to assign resources and develop systems.

Assigning applications to a responsible agency for development is a matter of judgement as well as logic and necessity. In developing a list of assignments, we followed the following criteria:

- An application should be developed by the agency which will receive the greatest benefit from it
- Applications should be based as much as possible on modifications of existing systems. The agency which developed the existing system should make the modifications
- Single agency applications should be developed by the agency to be served by each
- Resources should be spread fairly evenly over the five year period to minimize hiring and terminations. Where an

application could be assigned to two or more agencies, it should be assigned where it will spread workload evenly

Exhibit V on the following page lists the applications and the agency to which each has been assigned for development. These assignments should be considered as suggested and logical, but not mandatory.

B. COSTING PHILOSOPHY

In developing our implementation plan, we have estimated man-months required for each application. We then assumed a cost of \$25,000 per man year for programmer/analysts. This equates to a \$12.50 per hour charge. County EDP Services uses \$13.95 and \$15.00 per hour rates for internal and external development, but these include the fact that some hours will not be charged due to vacations, holiday, sick, etc. This factor is about 15 percent, and increases the extended rate of \$12.50 to \$14.70 per usable hour -- approximately the same as that used by EDP Services.

For applications being developed by the other agencies -- mostly cities with limited internal EDP support -- we utilized a \$25/hour rate on the assumption that substantial contractual assistance would be employed. For actual study and analysis type projects, a \$35/hour rate is more reasonable, but the \$25/hour assumption includes both contract programming hours and an assumed 25-33 percent of in-house personnel at a rate of \$14.70/hour.

The costing of operational hardware can be done in several ways. If purchased, it is normally considered development cost. If leased, it is normally applied against operational costs. Normally, because of rapid obsolescence in equipment, as much equipment is leased as is possible. We have therefore included only a mini-computer (which normally can't be leased) in our development cost estimates. We estimate that some 100 terminals and a 3330 disk system plus a 370/158 equivalent

REGIONAL JUSTICE APPLICATIONS
RESPONSIBILITIES, COSTS, AND PRIORITIES

EXHIBIT V

<u>Priority</u>	<u>Description</u>	<u>Estimated Non-Hardware Development Cost</u>	<u>Responsible</u>
1.	ARJIS I - Central Name/Number Index	\$100,000	County D.P.
2.	Study Proper Agency Goals	85,000	City of S.D.
3.	In-Depth Analysis of Records Storage Alternatives	30,000	Sheriff
4.	Functional Design of Regional 911 Automation	35,000	County Communications
5.	ARJIS II - Interface/Modify Existing Systems (Implementation)	100,000	County D.P.
6.	ARJIS III - Basic Courts Calendaring and Case Following	150,000	County D.P.
7.	Evidence Control	150,000	County D.P.
8.	ARJIS IV - Multi-Agency Law Enforcement Applications	527,000	City/County
9.	ARJIS V - Family Support/Probation Analysis	100,000	County D.P.
10.	Regional Computer Assisted Dispatch (CAD) and City CAD Batch Reports	774,000 *	City/County
11.	ARJIS VI - Subject-In-Process Enhancement	150,000	County D.P.
12.	County Clerk/Municipal Court Revenue Applications	150,000	County D.P.
13.	Criminal Justice Research and Planning Applications	220,000	County/City
14.	Individual Law Enforcement Agency Applications	1,130,000	Varies
15.	Legal Research Application	50,000	D. A.
16.	Interface to Orange County and Los Angeles Systems	<u>150,000</u>	County D.P.
	Total	<u>\$3,901,000**</u>	

*Will include \$424,000 in hardware
 ** Note: This does not include funds for projects already under development. Of the total new development above, outside funding in the amount of \$2,465,500 is recommended.

computer will be utilized completely in the operation of the ARJIS system. Because transactions volume is unknown at this time, we cannot estimate actual hardware requirements. For planning purposes, the committee should assume that between \$1,500,000 and \$3,000,000 worth of equipment will be dedicated to these applications by the time all are installed.

C. POLICY ON IN-HOUSE DEVELOPMENT VS CONTRACTING

In preparing our development cost estimates, we have used both agency employees and consultants in various applications. In determining when to utilize an outside contractor, we have used the following guidelines.

- An on-going operational system should, all other factors being equal, be developed by someone who will remain with the organization for at least the first two or three years of operation
- The community is best served by using someone who has developed the same application before if the application is complex and the individual or firm can be obtained at reasonable rates
- Outside contracting should be used to equalize workload. Hopefully this can be accomplished in conjunction with the above factor of bringing in skills not available from within the agencies
- Finally, if interagency adjudication is required as one of the tasks or as the primary output of a project, results developed by contract personnel will be far better accepted

We have spread the schedule over five years and tried to minimize peaks while still allowing the attainment of results within a minimum period.

One factor often utilized in justifying the use of contractual personnel is better user control of development. It seems to us that this problem is best addressed by organizing the Region's resources from the beginning in a manner which will result in a similar degree

of responsibility being felt by the in-house personnel towards the user that a contractor feels towards his employer. Turning to a contractor is merely a temporary solution to a portion of this type of problem. Organizing correctly from the beginning is a long range solution to both development and operational responsiveness.

D. APPLICATION RANKING PHILOSOPHY

In developing application rankings, we utilized the following criteria:

- All users told us what they felt the rankings were for all multi-agency applications in our initial conceptual design
- We determined technically which applications must precede other applications
- Applications which would service many users were regarded as most important
- We attempted to balance the amount of effort given to various types of agencies
- Development efforts were scheduled as quickly as possible given the amount of support it was reasonable to anticipate from City and County data processing systems groups
- It is imperative that existing City, County, State, and National data bases be made available to as many users as possible quickly because this results in substantial capability for a relatively small developmental expenditure

The rankings which are shown below have already been reviewed by County EDP Services, City of San Diego representatives, and Law and Justice Agency representatives.

E. DESCRIPTION OF APPLICATION AREAS

Each of the application areas listed in Exhibit V is described briefly below. Volume II contains more detailed descriptions of each

of these application areas (except for the "enabling studies" which are items 2, 3, and 4).

While applications were not prioritized or estimated upon this basis, we did compare the resultant distribution of development funds with the distribution of budget monies. The comparison is as follows:

<u>Agency</u>	<u>Typical County Budget Distribution</u>	<u>EDP Project Funds Distribution</u>
Overall Justice Function	0% - 2%	10%
Law Enforcement	60% - 65%	65%
Courts/Clerk	10% - 15%	18%
District Attorney	8% - 10%	5%
Probation	15% - 20%	2%

The probation function is split in terms of EDP support between social functions and justice functions. This document addresses only the justice-oriented functions. Also, the probation function tends to be a human-to-human function and is less suited to data bank retrievals or case data storage than other justice functions.

1. ARJIS I - Central Name/Number Index

Provides central access to records by name and description and by identifying number. Records retrieval will provide descriptive information on the individual and pointers to specific application files in which he has a record. This would include mechanized records storage systems such as those under consideration by the Sheriff, probation and police department alpha indices, court indices (now a batch listing) and D.A. criminal and family support indices. This module would include single query interface to CLETS and local files.

2. Agency Goals and Methods

Information systems are only as effective as the functional agency approaches they support. In the current plan, we have made the necessary assumption that the justice agencies' existing goals, functions and methods were to continue in their

present form. It is highly likely, however, that significant additions or changes to the present conceptual design would occur if the agencies were to take a fresh look at those goals and methods.

In the very near future, the Region should analyze what the goals of the various justice agencies are, how they might better approach the achievement of those goals, and what impact, if any, changing to a different approach would have upon the overall plan for information systems support.

3. Analysis of Records Storage Alternatives

The County has tentatively reserved 1975-1976 revenue sharing funds for acquisition of an automated records storage system. This is a field of technology which had been marked by a decreasing number of vendor alternatives in recent years but appears to be reversing that trend in recent months with new vendors entering the field. The County needs to study alternative approaches to storing the records, indexing the records for retrieval, converting existing records, and disseminating the data to remote users.

4. Functional Design of 911 Automation Support

The State Legislature has mandated implementation of 911 if it provides supporting funds during 1975. Our study indicated that central 911 call receipt with local dispatching is the most feasible approach to regional 911 implementation. This requires computer support for address look-up, information transfer and management statistics. The functional design will be based on the call handling and dispatcher needs described in the final report of Project A/B.

5. ARJIS II - Modify Existing Systems to Integrated Approach

There are several County EDP systems now operational which should be modified to allow the centralized index concept. Those include:

- Basic Courts System
- Traffic Priors System
- Jail Information System
- Want/Warrant System

6. ARJIS III - Calendaring/Docketing

This component is central to all county justice agencies. It includes basic docketing and calendaring capabilities. Eight of the capabilities listed in the conceptual design report fall into this module. The following areas must be implemented.

	<u>Calendaring</u>	<u>Docketing</u>	<u>Notifications</u>	<u>Index</u>
Superior Juvenile	x	x	x	**
Municipal Preliminary		x		**
Municipal Criminal	x	x	x	**
Superior Criminal	x	x	x	**
Superior Civil	*	x	*	**
Municipal Small Claims		x		**
Superior Domestic Relations	x	x	x	**

- * Existing On-line Systems
- ** Existing Batch Systems

7. Evidence and Property Control

When an event occurs, or from the time a man is arrested until the case is resolved, there is a property and evidence control function. The Court is the focal point for this, but police departments and the Sheriff Jail Division are also included.

8. ARJIS IV - Multi-Agency Law Enforcement

This component includes several semi-independent modules. These are:

<u>Module Name</u>	<u>Estimated Development Cost</u>	<u>Suggested Primary Agency</u>
• Alpha Index Card Replacement	(\$ 5,000)	Sheriff
• Records Storage Indexing	(\$ 5,000)	Sheriff
• Intelligence Checks	(\$ 95,000)	D. A.
• Detective Caseload Control	(\$ 20,000)	Sheriff
• Stolen and Pawned Property (Not CLETS available)	(\$ 75,000)	S.D.P.D.
• Event Correlation with Prior Events or Known Offenders	(\$250,000)	S.D.P.D.
• Field Interview Analysis	(\$ 50,000)	S.D.P.D.
• Unusual Occurrences Resources Directory	(\$ 27,000)	County Emergency Services

Prior to implementing the event correlation and stolen property applications, a study should be conducted by the Steering Committee on uniform reporting of event and known offender data. This study is estimated at \$20-\$25,000 and should be the first of the multi-agency law enforcement projects.

9. ARJIS V - Family Support/Corrections

The District Attorney Family Support Division (FSD) has substantial potential for automated assistance in case tracking, notification, and skip tracing. It is quite possible that additional state funds would be received equal to the costs of providing this support due to the enhanced enforcement potential.

The Probation Department has expressed extensive needs in the data bank retrieval and alpha file replacement areas addressed in previous ARJIS modules. This module addresses the more limited management information needs of the Probation Department in case following and management within the Department.

CONTINUED

1 OF 2

10. Regional Computer Assisted Dispatch (CAD)

This project would implement the results of the Communications Study with regional "911" computer support and dispatch tracking. The system would interface with the City of San Diego system now being installed at a cost in excess of \$600,000 in general fund revenues. This application area also includes development of the resource allocation batch analysis system which utilizes CAD data to assign units to locations where they will be optimally situated to respond to crimes quickly. In fact, since the City is already underway on its on-line system, the batch analysis system would be required before regional CAD is necessary. Funds for this area are split as follows:

<u>Application Module</u>	<u>Estimated Amount</u>	<u>Responsible Agency</u>
Batch Analysis Reports	100,000	City of San Diego
Regional CAD Software	250,000	County
Regional CAD Computer Hardware	424,000	County

We have included hardware in this case because (a) it is the type which must be purchased, (b) it will service the Sheriff and all cities except San Diego and (c) the software and hardware must be purchased as one package. We would anticipate a linking of City CAD hardware with hardware procured specifically for the regional system, thereby allowing a shared back-up system.

11. ARJIS VI - Subject-In-Process Enhancements

The ARJIS III module provides basic subject-in-process tracking. ARJIS VI provides for more sophisticated court capabilities and adds District Attorney Criminal Division capabilities. The specific capabilities envisioned in these areas are outlined in the conceptual design, Volume II.

12. Court Oriented Fiscal/Administrative Applications

This module includes financial accounting, statistical reporting and internal administrative control. Applications include:

- Accounting for fines, service fees, and forfeitures
- Accounts Receivable
- Bail, bond, and trust accounting
- Disbursements
- Statistical reporting to outside agencies
- Internal management statistics

For most of these, only the County Clerk and San Diego Municipal Court are large enough to require automated assistance, although the others may benefit from a common automated application.

13. Criminal Justice Research and Planning Applications

Planning is one of the elements of criminal justice which has really been enhanced recently through the use of computers. Substantial potential for improvement has been highlighted by computer models of the complete criminal justice system as well as in individual components. Many urban areas have utilized Blumstein's simulation model of the overall justice system in a community and substantial research is continuing on improved versions of such models. The Tri-County Region funded a recently completed court simulation model in San Bernardino which pointed to significant differences in court thru-put using various calendaring and resource allocation approaches. San Jose found that it could allocate police units to beats using the computer and obtain much better workload optimization. Applications which should be implemented to facilitate research and planning include:

- Facilities Location and Building Cost Analysis System (Kansas City)
- Beat Allocation and Optimization System (San Jose)

- Court Scheduling and Calendaring Simulation System (San Bernardino)
- Sentencing and Correctional Program Analysis (Alaska and Others)
- Special Studies such as:
 - Burglary prevention analysis
 - Selected narcotics "network" studies
 - Diversion project and O.R. program analysis
 - Night court effectiveness analysis
 - Prosecutor specializes in trial phase vs carries case through entire system

We have not included special studies in our cost estimates since we cannot foresee which special studies the region will elect to pursue. Cost and responsibilities for the modules of this component are as follows:

Module	Estimated Development Cost	Suggested Responsible Agency
Facilities Analysis	\$50,000	City of San Diego EDP
Beat Optimization	30,000	San Diego Police Dept.
Court Simulation	50,000	Municipal Court
Sentencing and Correctional Program Analysis	40,000	Probation
Justice System Simulation	50,000	Law & Justice Agency
Special Studies	Unknown	Varies

The facilities analysis project is suggested for the City of San Diego to support because the City will have the first geographic data base in the region.

14. Individual Agency Law Enforcement Applications

This area is oriented to describing the numerous law enforcement applications which are not regional in nature. There are many separate applications which fall into this area. These include:

- CII and FBI Statistics (transfer 5,000 per department)
- Traffic Citations Control (not estimated)
- Traffic Accident Analysis (not estimated)
- Crime Lab Support (\$50,000 rough estimate)
- Management Statistics (varies, 15,000 - 200,000 per department)
- Police Regulated Business (\$10 - 15,000)
- Personnel Capabilities File (\$15,000 per department)
- Fleet Management (\$15 - 75,000 per department)
- Bicycle Registration (\$35,000 system should be used by all agencies)
- Program Budgeting (\$150,000)

Each of the police departments in the County and the Sheriff may require EDP support in these areas. Normally, the larger the department, the more worthwhile the computer support. While traffic accident and citation analysis could be considered regional in nature, their subject matter is not criminal related and has therefore been excluded from this system. This approach is recommended by the National Commission on Criminal Justice Standards. Bicycle registration is placed in the single agency rather than multi-agency category because new legislation implies that a Sheriff could do this for all county law enforcement directly with the dealers.

In prioritizing within the various departments and applications, we would suggest the following schedule:

<u>Application Area</u>	<u>Estimated Development Amount</u>	<u>Developed For</u>
CII/FBI Statistics	60,000	All agencies
Management Statistics	200,000	S.D.P.D.
Management Statistics (some exist now)	100,000	Sheriff
Fleet Management	75,000	S.D.P.D.
Fleet Management	60,000	Sheriff

<u>Application Area</u>	<u>Estimated Development Amount</u>	<u>Developed For</u>
Bicycle Registration	35,000	Sheriff
Management Statistics for larger cities	50,000	Chula Vista P.D.
	40,000	El Cajon
	70,000	Escondido, Ocean-side
Fleet Management for larger cities	60,000	same 4 as above
Police Regulated Business	15,000	S.D.P.D.
Program Budgeting	150,000	S.D.P.D.
Program Budgeting	150,000	Sheriff
Personnel Capabilities File	15,000	Sheriff
All Other	50,000	Unknown
Total	<u>\$1,130,000</u>	

15. Legal Research Aids

On both the state and national level, automated aids to legal research are being developed and improved upon. We envision a national or statewide service which the County could acquire within the next five or six years.

16. Interface to Other Regional Systems

There is substantial information in nearby counties which is applicable to justice agencies in San Diego County. Some of this is available through statewide systems, but much is not. There is, therefore, a need to interface to nearby regional information systems. This item is a low priority because it should not be done until both the San Diego Region and the County to be interfaced with have well working systems.

F. APPLICATION IMPLEMENTATION SCHEDULE

Exhibit VI on the following pages shows the proposed schedule for implementing each application. It also indicates the man-loading for each project and totals for all the applications.

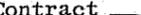
FISCAL YEARS

APPLICATION	DATE	1974/1975	1975/1976	1976/1977	1977/1978	1978/1979
1. ARJIS I					1 man //
2. Agency Goals		////				2 man ==
3. Records Storage Alternatives		////				3 man -.-
4. Sheriff CAD			////			4 man
5. ARJIS II					Contract //
6. ARJIS III				KEY
7. Evidence Control			////		
8. ARJIS IV						
Uniform Reporting		////				
Event Correlation			
Alpha Index			////			
Records Storage Index			////			
Intelligence Checks					
Detective Caseload			////			
Property					
Unusual Occurrences					
F.I. Analysis				
9. ARJIS V			
10. Regional CAD/911						
On-line Software				////	////	
Hardware					////	
Batch Analysis				

FISCAL YEARS

APPLICATION	DATE	1974/1975	1975/1976	1976/1977	1977/1978	1978/1979
11. ARJIS VI			//////	//////	
12. Court Fiscal			//////	//////	
13. Research & Planning						
Facilities Analysis						
Beat Optimization				//////		
Court Simulation			//////			
Sentencing Analysis					//////	
Justice System Simulation						//////
14. Single Agency Law Enforcement						
CII/FBI Statistics					
SDPD Mgt. Stats.					//////
Sheriff Mgt. Stats.					
SDPD Fleet Mgt.					//////
Sheriff Fleet Mgt.					//////
Bicycle Registration						//////
Mgt. Stats. - Med. Cities					//////
Fleet Mgt. - Med. Cities					//////
SDPD Police Regist. Bus.					//////
Sheriff Program Budget					//////
Sheriff Personnel					
1 man	//////					
2 man					
3 man					
4 man					
Contract	//////					
Each Agency Provides					
KEY						

FISCAL YEARS

APPLICATION	DATE	1974/1975	1975/1976	1976/1977	1977/1978	1978/1979
15. Legal Research Application						
16. Regional Interfaces Orange L.A.						
TOTAL STAFF MONTHLY LEVELS						
City of San Diego		4/ 4/ 4/ /4 /4 /4	6/ 6/ 6/ 6/ 6/ 6/ /6 /6 /6 /6 /6 /6	6/ 6/ 6/ 6/ 6/ 6/ /6 /6 /6 /6 /6 /6	8/ 8/ 8/ 8/ 8/ 8/ /8 /8 /8 /8 /8 /8	8/ 8/ 8/ 2/ 2/ 2/ /8 /8 /8 /2 /2 /2
County EDP		10/10/10/12/12/12/ /10/10/10/12/12/12	13/13/13/14/14/14/ /13/13/13/14/14/14	13/13/12/12/12/12/ /13/13/12/12/12/12	12/13/12/12/12/12/ /12/13/12/12/12/12	13/13/13/14/13/13/ /13/13/13/14/13/13
Other Agency or Contract*		17/17/17/14/14/14/ /17/17/17/14/14/14	2/ 2/ 2/22/22/22/ /2 /2 /2 /22/22/22	43/43/43/27/27/32/ /43/43/43/27/27/32	17/17/17/23/23/23/ /17/17/17/23/23/23	33/33/33/23/23/23/ /33/33/33/23/23/23
Total Manpower**		14/14/14/19/19/19/ /14/14/14/19/19/19	19/19/19/25/25/25/ /19/19/19/25/25/25	27/27/26/23/23/24/ /27/27/26/23/23/24	23/24/23/24/24/24/ /23/24/23/24/24/24	27/27/27/21/20/20/ /27/27/27/21/20/20
* In thousands of dollars ** Other agency or contract converted to manpower at \$5,000/man-month. Purchase of mini-computer excluded						
1 man  4 man  2 man  Contract  3 man  KEY						

V. POLICY IMPLICATIONS

V. POLICY IMPLICATIONS

Development of a system such as ARJIS requires modifications in the way the involved justice agencies conduct their business. Of course, the new system will change their clerical and analytical processes. It also has broader policy implications for the involved agencies. These broad policy implications are in two primary areas -- multi-agency policy questions and security and privacy issues. These considerations are discussed below.

A. MULTI-AGENCY POLICY IMPLICATIONS

There are eight areas where adoption of an ARJIS type system will require changes in the way many of the agencies in the region perform their business. Since these areas of impact are not necessarily self-evident from reading the design documents, we have outlined them below.

1. Common Law Enforcement Reporting Requirements

Adoption of the investigative support portions of the ARJIS system by an agency will require utilization of a common crime event reporting sheet, a common field interview form, common known offender coding methodologies, and standardized stolen/pawned/recovered property description reports. The first application within the ARJIS V module is a study of common reporting and coding techniques. Once a common format has been developed, any agency wishing to use ARJIS would have to utilize the regional format for the inputs required by those applications.

2. Legal Name Used on Reports

In law enforcement agencies it is common practice to utilize the generally recognized name of an individual on reports where only one name can be used. The system, because

of court requirements will designate the "legal" name as that printed on reports. Aliases and other names will be listed as alternatives on most query responses and on reports which allow for multiple names.

3. Requirement for Date-of-Birth on All Transactions

Due to the size of the file, the system will not be able to retrieve data based upon name alone. This is a particular problem in the courts non-criminal processes where obtaining, for example, a small claims defendant's Date of Birth (DOB) presents real problems. Initial papers could be accepted without DOB, for example, by using the filing date as the DOB. Problems would occur eventually if these numbers were not replaced with real dates of birth.

4. Exclusion of Intelligence Data

Our recommended approach to intelligence data is to maintain in the master file only an indicator that the individual is known to a given intelligence agency. That agency will be able to use the system as an indexing method for its files, but the computer system will not have an intelligible case number nor any data regarding what is known about the individual by that agency. Further, most terminals would not be able to even access the pointer record. This means more manual work, but protects the intelligence files completely and provides complete personal security for such data.

5. Assumption of Using Existing Software System

County Data Processing is currently using a language called "FASTER TYPE III" for processing all on-line applications. The proposed system could not operate under this software without modifications to the access techniques and perhaps not without extensive modifications in other areas. The County is currently considering alternatives to FASTER III. In the absence of any

other information, however, all operational and developmental costs are estimated assuming FASTER III. As soon as the new software is selected, County EDP should provide updated development cost estimates. The analysis currently being done on an alternative software system should take into account the ARJIS requirements. The County should also consider the feasibility of working with the City of San Diego toward the objective of common system software.

6. Policy for Message Switching Computer

The County has just installed a "front-end" computer to the 370/158. It is currently contemplated that only law enforcement agencies would be allowed access to that computer. With a modification to the software of that computer, we believe all justice agencies could access ARJIS through the "front-end". This would improve overall system thru-put and query time. The justice agencies, most importantly the Sheriff, need to decide if the improved overall system operation is worth a potential reduction in speed and access to CLETS. If this is determined to be desirable, the question of whether NCIC would accept the inclusion of other justice agencies could then be explored. Our experience in other states indicates that NCIC will allow message switching from and to non-justice terminals attached to the front-end processor as long as they are precluded from switching into the statewide law enforcement system (CLETS).

7. Indexing Records Storage Systems

The conceptual design of ARJIS is intended to allow indexing of stored documents in a Trans-A-File, Videofile, or Microfiche type system. We believe it would be redundant and not cost feasible to have a separate name index for such records. However, this is a question, in part, of system reliability for the County central processing equipment. It is our feeling that the ARJIS system as a whole is at least as critical as documents in a law enforcement agency. Therefore, any ARJIS system must be developed on a processing configuration which would provide reliability comparable to that envisioned for a stand-alone index.

B. SECURITY AND PRIVACY CONSIDERATIONS

A system such as ARJIS requires clearly defined security and privacy policies and procedures. Security and privacy of criminal justice information systems is a very volatile subject, with several different proposals under consideration by State and Federal Legislators and other groups.

1. Considerations Given in this Master Plan to Security and Privacy

We have given considerable thought to security and privacy issues in developing this plan. It is difficult in a plan to ensure any level of security or privacy, but one can prepare a conceptual design and organizational approach which will provide the best framework for a good security and privacy policy.

Specifically, we have provided the following features primarily to promote an optimal security and privacy policy.

- A detail file structure that does not permit data of substantially different degrees of sensitivity about an individual to be co-mingled. This is done at the sacrifice of more rapid access time on queries.
- An on-going ARJIS policy board to resolve security and privacy issues as they occur. Too often, policies are drafted and adopted by a City Council or Board of Supervisors and then left to operational personnel to interpret. Since the written policies never address all eventualities, the interpretations become a substantial function and this can lead to later controversies.
- A suggested software system that can limit access to specific files from specific terminals and/or to specific passwords. This multiple level of security effectively negates the security degradation sometimes associated with terminal systems.
- "Public record" data maintained in records separate from data records on suspects, intelligence functions, or other items which are confidential to the justice agency involved.

These recommendations provide a base which can support strong security of records and reasonable privacy standards. Only the ARJIS Management Committee can act to insure that such standards exist and are followed closely.

2. Impact of Standards Proposed for Statewide Legislation

This system, as proposed, does not meet the standards currently being reviewed for possible inclusion in the Statewide Plan for Criminal Justice Information Systems. The set of draft standards prepared by the contractor on the Statewide system is oriented strongly toward public record information and deals with all justice agency information in essentially two classes.

The proposed standards provide a class called "Intelligence Information" which has extremely limited privacy provisions. All other data is relegated to the "public record" class. This means that the broad category of investigative data is barred from computer usage unless it is termed intelligence information. From a practical standpoint, that is what will be done if the proposed regulations pass. This will, however, destroy the whole purpose of the regulations. We suggest that all justice agencies in the region review these proposed regulations, consider their impact, and make their views known on the regulations. Whatever statewide standards are eventually established must be reasonable. Assuming that they are, they should provide the basis for ARJIS security and privacy policies.

VI. TRANSFERABILITY SUMMARY

VI. TRANSFERABILITY SUMMARY

This section summarizes the results of our investigations into the availability of systems from other jurisdictions. The objective in investigating these opportunities is to find applications which are similar enough to what this Region needs that they could significantly impact the resources required to develop an application locally.

A. DESCRIPTION OF TYPES OF ASSISTANCE AVAILABLE FROM OTHER AGENCIES

Cities and counties have discussed and explored the idea of joint development of applications for many years. In a few instances, two or more agencies with similar computers have donated staff and/or funds to a joint development project. This has been done in several types of application areas including law and justice. Recently, there have also been attempts (usually sponsored by the Federal Government) to develop a system for a specific city or county in such a way that it will be especially easy to transfer it later to other similar agencies.

These two approaches are relatively rare. Much more frequently, an agency develops an EDP application tailored to its own needs and then a second agency decides that it could use that application as a basis for its new system. This latter approach is often encouraged by hardware and software vendors associated with the initial application who are working with or proposing to the interested agency.

Several degrees of "transferability" are possible. These include:

- Transferring the entire application exactly as used by the agency which developed it and modify old manual procedures and forms to conform to those required by the EDP application. This approach requires nearly identical computer

hardware and user requirements between the original and borrowing agency. However, where this is the case, it means a substantial reduction in development costs (a reduction of perhaps 80 percent is possible).

- Utilizing the application exactly as is (as in the alternative above), but modifying the programs to work on a different computer configuration. How much this approach can save depends upon how similar the computer configurations are and whether substantial program language changes must be made. Probably over 50 percent can be saved where this is done if user requirements were identical between the two agencies, even if the computer configurations include different manufacturer's central processors.
- Another alternative is to take the basic computer software exactly as is, but modify the input and output formats to meet the new users existing manual procedures and forms. How readily this can be done depends entirely on the design concepts followed in the original application. Often applications are designed to facilitate changes such as this because even the original user's requirements always change over time. If an application was designed this way, probably a 60 percent savings can be achieved by transferring it to a new user.
- In most cases, the new user wants some major enhancements to a system he is considering transferring. In this case, he must determine if the changes are so extensive that very little will be saved by taking unfamiliar programs and modifying them. Savings can vary from very small to 70-80 percent. (In the latter case, the enhancements would have to be add-ons which affected the basic system in minor areas only).
- Sometimes the changes and computer software differences are so extensive that only the input and output formats, file contents, and system flowcharts are useful. The programs themselves and the detailed program flow are useless. Even in this case, the existing application serves to help insure that major omissions and/or processing flow errors do not occur. A savings of 20-25 percent might be anticipated from this kind of "transferability".
- Finally, the entire computer system may not be useful. In some cases, however, the results of the study may be necessary starting data for a new application. This usually occurs in research and planning applications such as simulation systems.

Each of the above could have a favorable impact on the cost of developing each application outlined in the implementation plan.

B. CRITERIA TO CONSIDER BEFORE ATTEMPTING A TRANSFER

In considering the potential for transfer among the law and justice applications listed in Section IV, several factors must be explored. Generally, the following guidelines should be followed:

1. Application Area Guidelines

- The less input/output involved, the greater the probability of a successful transfer. In other words, operational applications are hardest to transfer while research and planning are easiest
- The more limited the application, the greater the probability of a successful transfer. Since changing another person's computer coding is an intricate process, the more complex the programs are, the greater the chance that (a) so many changes will be required that the savings will be lost and (b) the "debug" time for each change will be much more than anticipated and the changes will cause unforeseen problems in related modules

2. Specific Application Guidelines

- Documentation must be comprehensive, clear and logical
- The hardware and software configurations of the lending installation should be nearly identical with the receiving EDP installation
- The leading agency should be near enough to allow ready access, visits by San Diego analysts to the lending installation, and hopefully visits by experienced analysts to San Diego

These criteria were followed in the specific recommendations listed in Volume II.

C. SPECIFIC RECOMMENDATIONS

We have included specific recommendations on transferability in the applications described in Volume II. In considering some of the major regional justice informations systems in other jurisdictions, we would make the following comparisons:

<u>System and Jurisdiction</u>	<u>Central Name Concept Similar</u>	<u>Hardware Comparable</u>	<u>Software Comparable</u>	<u>Comments</u>
Kansas City - "ALERT I & II"	No	Yes	Yes	
Seattle/King Co. - SEA-KING ALERT	No	Yes	Yes	Version of Kansas City
Maricopa County	No	Yes	Yes	
Santa Clara Co. - "CJIC"	No	Yes	No	Courts system separate
San Francisco - "CABLE"	No	Yes	No	Software Differences not Insurmountable Contractor Involved
Alameda Co. - CORPUS	No	Yes	?	Version of CJIC
Multnomah/Portland - "CRISS"	No	Yes	No	
Spokane & Anchorage - "TIE-PIN"	Yes	Yes	No	Courts excluded
Cincinnati/Hamilton Co. - "CLEAR"	No	No	No	Contractor involved
Dallas	No	Yes	No	

As can be seen from the above, there are no real standout candidates for a complete software transfer. Although the chart above does not show it, no jurisdiction yet has operational all the multi-agency applications envisioned in ARJIS

In light of the above findings, our recommendations are:

1. Transfer Complete Research and Planning Systems

All of the research and planning systems outlined in ARJIS have been addressed elsewhere. They are excellent candidates for transfer because they have (a) highly sophisticated users to whom format is relatively immaterial, (b) they are operated infrequently so efficiency of operation is not very important, and (c) they are primarily "stand-alone" and therefore easy to modify.

2. Consider Transfer of Complete Systems for Reporting to Other Levels of Government

Systems which report to other levels of government are of necessity standardized in their output. For FBI and CII reporting, there are so many available that clearly one should be transferred completely. For Judicial Council reporting, there are relatively few automated systems, but these should be seriously considered.

3. Continue to Monitor New Developments in Comprehensive ARJIS Type Systems, But Plan on Transferring Concepts Only

The exceedingly complex regional justice systems are highly unlikely candidates for transfer. To begin with, the nearest are 500 miles away. This makes very difficult the kind of interaction with the lending agency which would be required by such a complex transfer. Possibly a contractor who has developed a comparable system could provide the transfer skills, but only San Francisco of the western jurisdictions has employed a contractor extensively and the San Francisco System is not as comprehensive or integrated as most of the others.

We have indicated that physically transferring an operational software system is unwise in this area. However, input forms and screen masks, output reports and screen displays,

file contents and individual query and update logic from such systems can be extremely valuable. As mentioned previously, these can be thought provokers and can help insure that all necessary ingredients are included in the system to be designed.

4. Other Single-Agency Applications Should be Evaluated on an Application by Application Basis as Regards Transfer Potential

The other applications recommended herein should be evaluated on an application by application basis. We have made suggestions in Volume II on specific applications.

In summary, it is our belief that substantial cost savings can be made by exploring transfer potential. We do not, however, believe that the heart of the system can be transferred other than in a conceptual sense.

D. TRANSLATING TRANSFERABILITY POTENTIAL INTO MONETARY IMPACT ON ESTIMATES

In preparing the software development cost estimates we used in Section IV, we applied the above results. All of the planning and research applications and the CII/FBI reporting applications assume transfer of an operational package from another jurisdiction. Other applications assume proportionally less impact. At a minimum these are estimated at about 20 percent less than would be required if the responsible agency were to design a system without reference to work done by other jurisdictions.

END

7. 11. 1952 / 11. 11. 1952